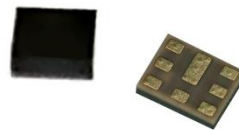


Data Sheet for SAW Components



Band12

Duplexer

Product ID: LBD0738G2X

Date: Feb. 22, 2023

Revision: 1.0

Features

- ◆ Package Size: 1.6 x 1.2 x 0.6max mm
- ◆ Single-Ended Input and Output
- ◆ Terminating Impedance: 50 Ω
- ◆ Moisture Sensitivity Level 3
- ◆ ESD Sensitive Device

Electrical Specifications Band12 Duplexer

Temperature Range for Specification: -30 to +85 °C

Tx to Ant	Min.	Typ.	Max.	Unit
Insertion Loss				
699.25 - 715.75 MHz	-	1.5	2.2	dB
Pass Band Ripple				
699.25 - 715.75 MHz	-	1.1	1.8	dB
VSWR Tx				
699.25 - 715.75 MHz	-	1.5	2.0	-
VSWR Ant				
699.25 - 715.75 MHz	-	1.5	2.0	-
Absolute Attenuation				
10 - 685 MHz	15	24	-	dB
722 - 729 MHz	4.0	7.0	-	dB _{INT} *1
729.25 - 745.75 MHz	45	55	-	dB
746 - 768 MHz	25	29	-	dB
768 - 805 MHz	25	29	-	dB
824 - 849 MHz	25	28	-	dB
869 - 894 MHz	25	28	-	dB
1398 - 1432 MHz	28	33	-	dB
1559 - 1563 MHz	32	37	-	dB
1565.42 - 1573.37 MHz	32	37	-	dB
1573.37 - 1577.47 MHz	32	37	-	dB
1577.47 - 1585.42 MHz	32	37	-	dB
1597.55 - 1605.89 MHz	32	37	-	dB
1710 - 1755 MHz	35	42	-	dB
1805 - 1880 MHz	35	45	-	dB
1930 - 1990 MHz	35	49	-	dB
2097 - 2170 MHz	35	43	-	dB
2155 - 2170 MHz	35	43	-	dB
2400 - 2484 MHz	30	39	-	dB
2796 - 2864 MHz	30	36	-	dB
4900 - 5950 MHz	20	31	-	dB

*1: Integrated |S21| over the center 4.5 MHz CH BW and converting to dB value

Electrical Specifications Band12 Duplexer

Temperature Range for Specification: -30 to +85 °C

Ant to Rx	Min.	Typ.	Max.	Unit
Insertion Loss				
729.25 - 745.75 MHz	-	1.4	2.0	dB
Pass Band Ripple				
729.25 - 745.75 MHz	-	0.6	1.5	dB
VSWR Rx				
729.25 - 745.75 MHz	-	1.4	2.0	-
VSWR Ant				
729.25 - 745.75 MHz	-	1.4	2.0	-
Absolute Attenuation				
10 - 699 MHz	40	50	-	dB
30 - 30 MHz	50	103	-	dB
699.25 - 715.75 MHz	45	58	-	dB
776 - 793 MHz	20	41	-	dB
793 - 805 MHz	35	45	-	dB
824 - 849 MHz	40	48	-	dB
1710 - 1755 MHz	40	57	-	dB
1850 - 1920 MHz	40	57	-	dB
2187 - 2238 MHz	45	56	-	dB
2400 - 2500 MHz	45	57	-	dB
4900 - 5950 MHz	30	48	-	dB
6561 - 6714 MHz	30	52	-	dB
7290 - 7460 MHz	30	52	-	dB

Electrical Specifications Band12 Duplexer

Temperature Range for Specification: -30 to +85 °C

Tx to Rx				Min.	Typ.	Max.	Unit
Isolation							
	699.25	-	715.75 MHz	53	59	-	dB
	726.25	-	745.75 MHz	55	60	-	dB

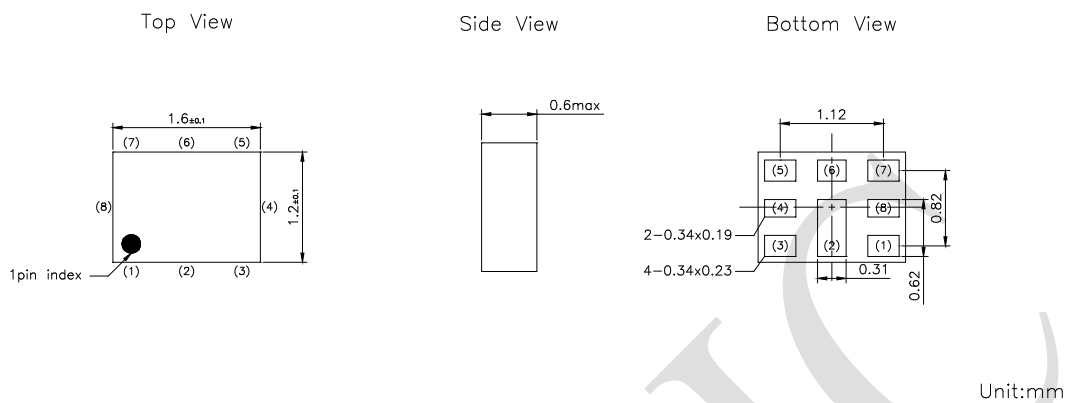
Maximum Ratings

Item	Rating	Condition / Remark
Storage Temperature	-40 to +85 °C	
DC Voltage	5 V	+25 °C
Input power	+30dBm	LTE , +55 °C , 5000 h

Recommended Operating Conditions

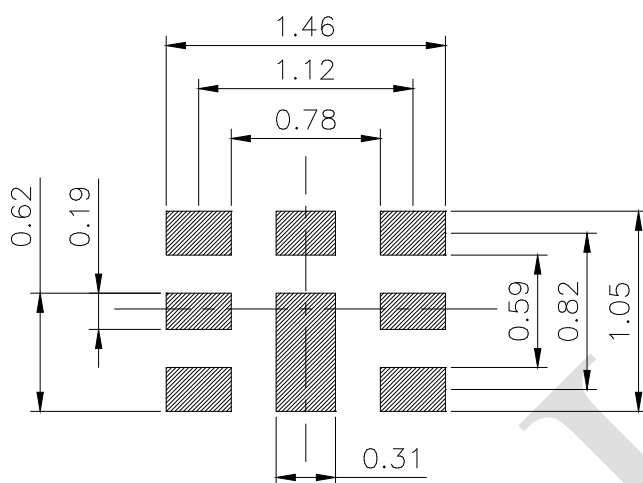
Item	Rating	Condition / Remark
Operating Temperature, T _{CASE}	-30 to +85 °C	

Package Information



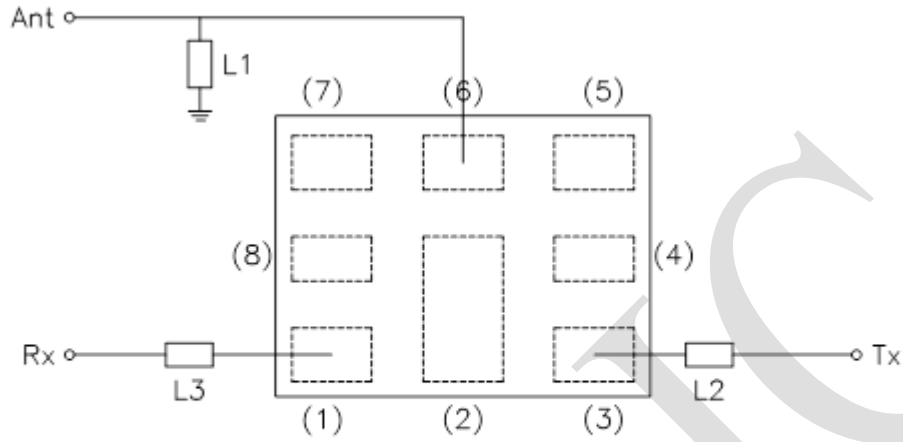
Pin Configuration	
1	: Rx
3	: Tx
6	: Ant
Other	: GND

Land Pattern



Unit:mm

Application Circuit



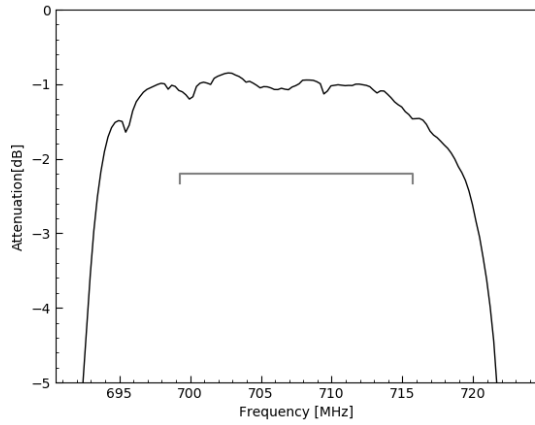
Port	Terminating Z	Matching Component		
Ant	50 Ω	L1 : 10nH (Ideal inductor)		
Tx	50 Ω	L2 : 5.6nH (Ideal inductor)		
Rx	50 Ω	L3 : 4.7nH (Ideal inductor)		

For ESD protection, external shunt inductor at all ports is recommended.

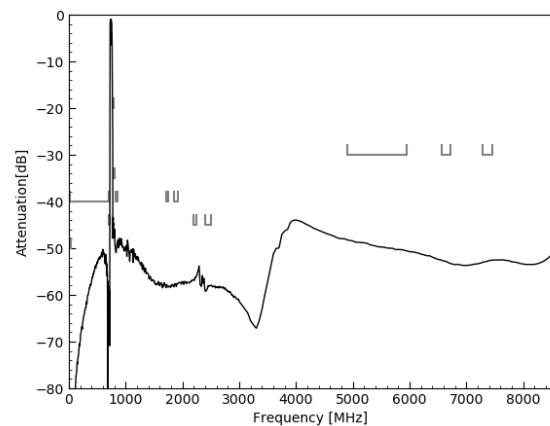
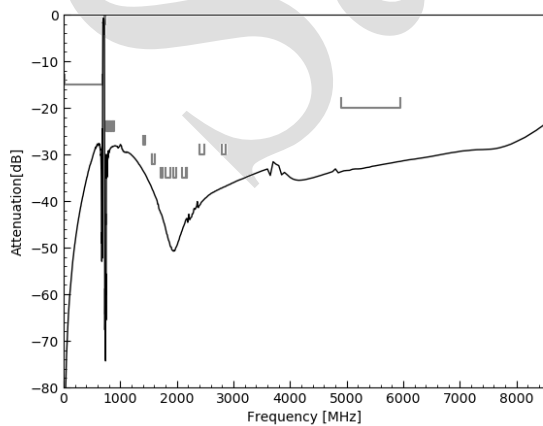
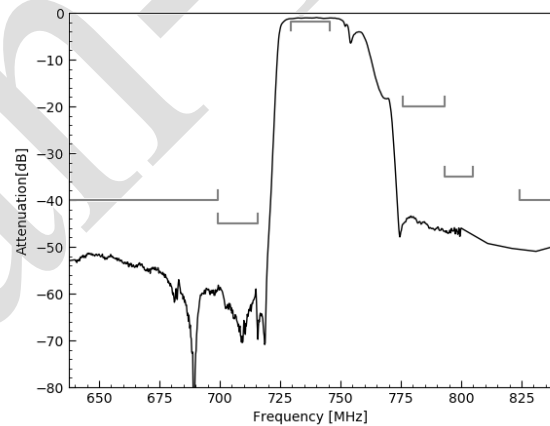
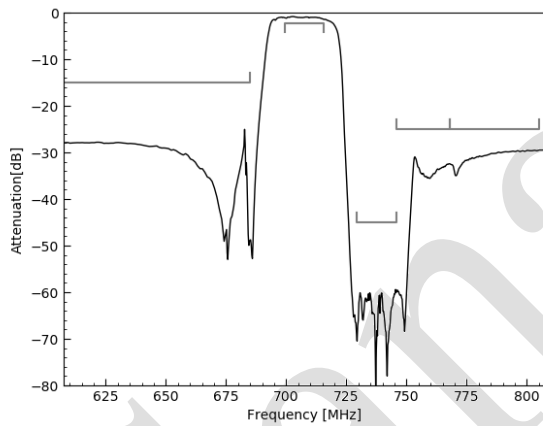
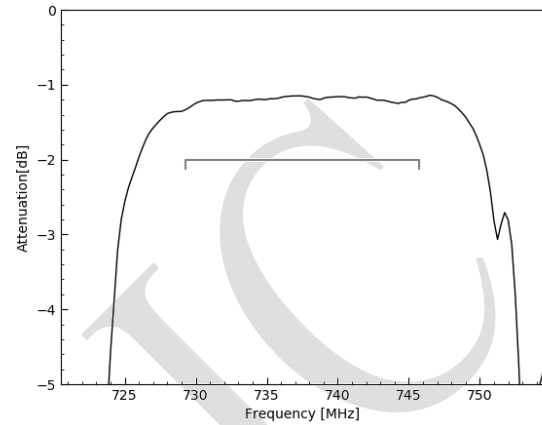
Electrical Characteristics

Band12 Duplexer

Tx to Ant



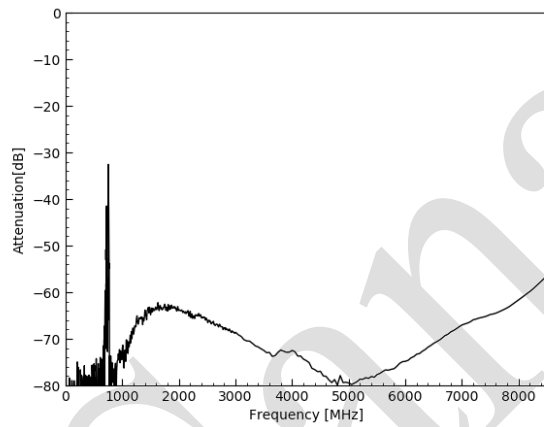
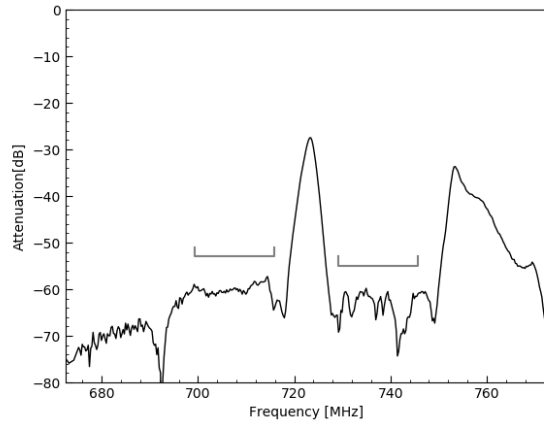
Ant to Rx



Electrical Characteristics

Band12 Duplexer

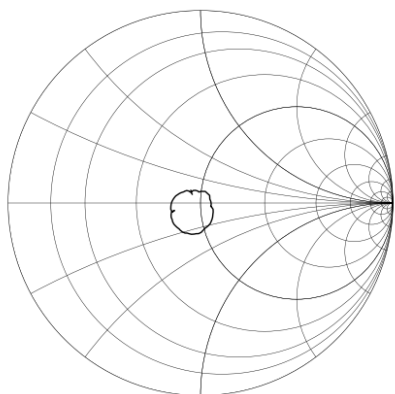
Tx to Rx



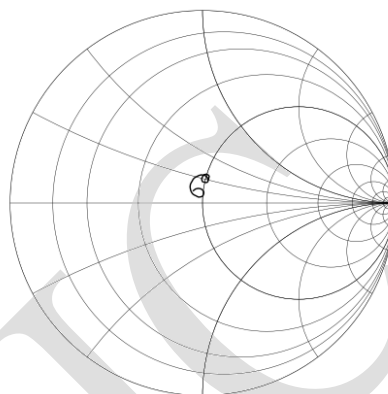
Electrical Characteristics

Band12 Duplexer

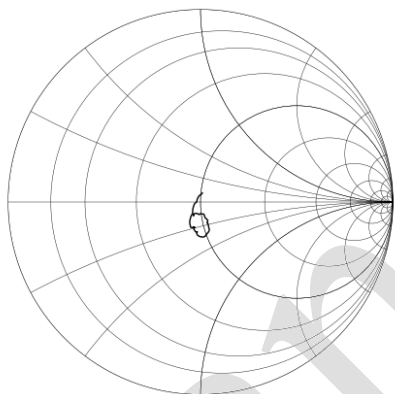
Ant Impedance (Tx band)



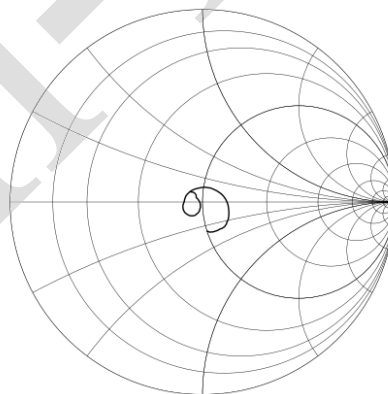
Ant Impedance (Rx band)



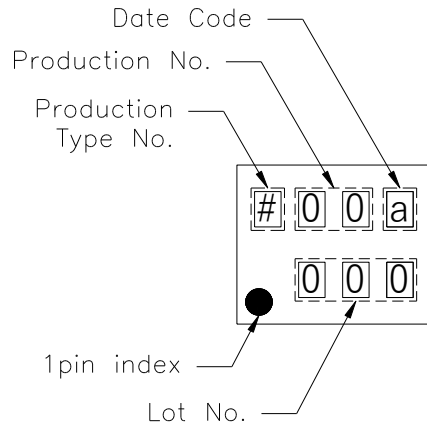
Tx Impedance



Rx Impedance



Marking Information



Production type No. (S: Sample, P: Production)

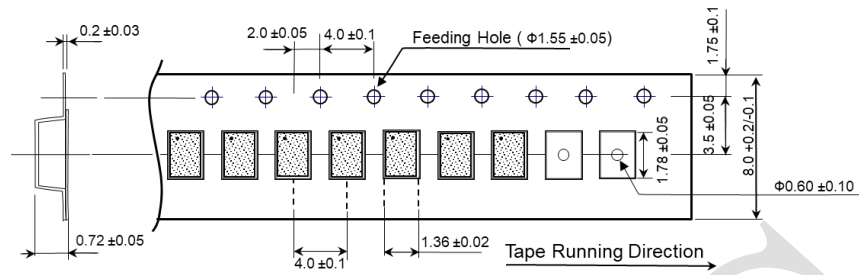
Product No. : 2X

Lot No. (Indicated by 0 ~ 9 or A to Z and a to z, except I, O, i, o and l)

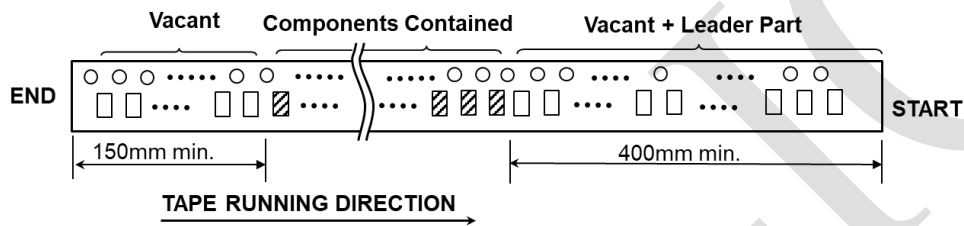
Product date code :

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2022	a	b	c	d	e	f	g	h	j	k	l	m
2023	n	p	q	r	s	t	u	v	w	x	y	z
2024	A	B	C	D	E	F	G	H	J	K	L	M
2025	N	P	Q	R	S	T	U	V	W	X	Y	Z

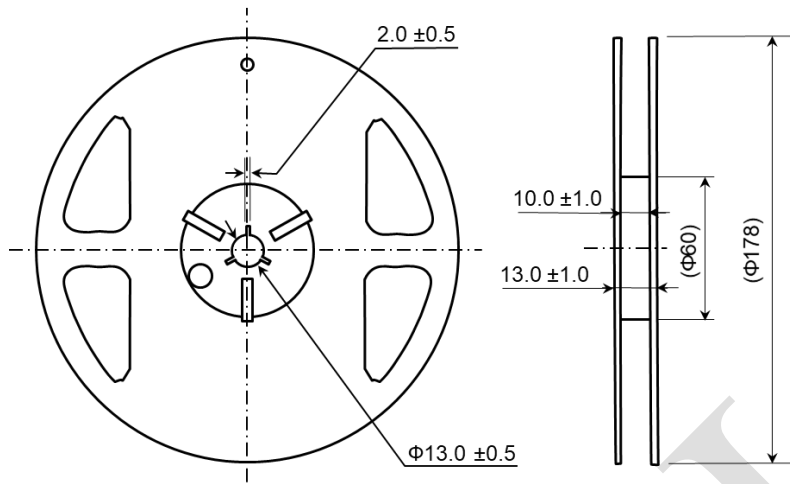
Tape Information



UNIT: mm

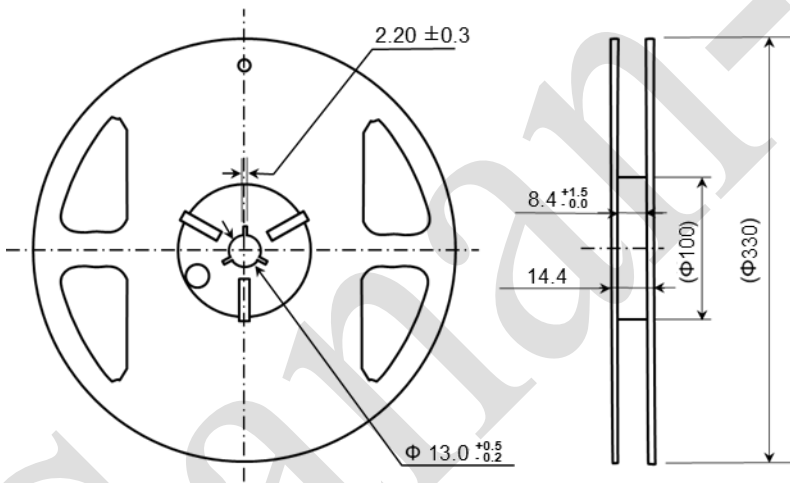


Reel Information



$\Phi 178$ Reel Dimension

UNIT: mm



$\Phi 330$ Reel Dimension

UNIT: mm

Ordering Code

Part Number	Description
LBD0738G2X-SA	Bulk (few pieces)
LBD0738G2X-MB	Tape & Reel 3,000 pcs/reel
LBD0738G2X-MC	Tape & Reel 10,000 pcs/reel
LBD0738G2X-SZ	EVB

Revision History

Revision	Date	Description
1.0	Feb. 22, 2023	● Initial release

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